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EXAMINER

KIM, SUN U

ART UNIT PAPER NUMBER

1723

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/738,424

Applicant(s)

WIRTZ, PETER

Examiner

John Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,3,6-8 and 11-34 is/are pending in the application.
- 4a) Of the above claim(s) 28-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,3,6-8,11-27 and 34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. Claims 28-33 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant timely traversed the restriction (election) requirement in the reply filed on December 12, 2005.

2. The disclosure is objected to because of the following informalities: "Brief Description of the Drawings" is needed on page 12 of the specification.

Appropriate correction is required.

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 2-3, 6-8, 11-27 and 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claim 34 recites "lattice elements" instead of "grid members" which was originally described in the specification. "Lattice elements" are newly introduced in the claims which were not described in the original specification.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 6-8, 12, 15 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Persson et al., U.S. Patent No. 5,076,924 in view of Denton et al, U.S. Patent Application Publication No. 2002/0144942.

Persson et al disclose a filter material comprising two stacked lattice members (1, 4) characterized in that a lattice element (4) e.g. filter cloth have a weld joint (5) with another lattice element i.e. filter plate across the entire contact surface with the filter plate wherein the lattice member (4) is a filter cloth having an open area of about 25 to 50% of the total area (see figures 1-2; col. 2, lines 18-34). Claim 34 essentially differs from the filter material of Persson et al in reciting the filter material having more than 20 welded connections per 1 square centimeter and one of the lattice elements having opening with a diameter of less than 2 mm. Denton et al teach a filter material comprising more than 7 to 20 weld joints per axial inch between screen (16) and the filter media (14) (Par. 47, 49). One of skill in the art would by routine experimentation to find the optimum number of weld joints to secure two lattice elements together to form a filter material. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955). Denton teaches a lattice element (16) comprising 0.090 inch x 0.090 inch square openings (Par. 46). One of skill in the art would by routine experimentation to find the optimum opening diameter depending on the desired particle size to be filtered. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

Regarding Claim 6, Persson et al disclose that at least one lattice element has between 5 or 10 and 1500 or 1200 yarns per cm (Col. 2, Lines 30-35).

Regarding Claim 7, Persson et al disclose that the stacked lattice elements (1, 4) have differing structures (Fig. 1).

Regarding Claim 8, Persson et al disclose that one lattice element (4) is finer than another lattice element (1) (Fig. 1; Col. 2, Lines 30-35).

Regarding Claim 12, Persson et al disclose that one lattice element (4) is an expanded metal e.g. acidproof steel (Col. 2, Lines 27-30).

Regarding Claim 15, Persson et al disclose that the stacked lattice elements (1, 4) are made from different materials (Col. 2, Lines 27-30).

7. Claims 2, 7-8, 12, 14, 17-19, 26-27 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lisson et al., U. S. Patent No. 6,096,117 in view of Denton et al.

Lisson et al disclose a filter material comprising two stacked lattice elements (5, 6, 8, 10) characterized in that the lattice elements have a weld joint between them (see Fig. 2; Col. 3, Lines 35-40). Claim 34 essentially differs from the filter material of Lisson et al in reciting the filter material having more than 20 welded connections per 1 square centimeter and one of the lattice elements having opening with a diameter of less than 2 mm. Denton et al teach a filter material comprising more than 7 to 20 weld joints per axial inch between screen (16) and the filter media (14) (Par. 47, 49). One of skill in the art would by routine experimentation to find the optimum number of weld joints to secure two lattice elements together to form a filter material. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller,

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105 USPQ 233, 235 (CCPA 1955). Denton teaches a lattice element (16) comprising 0.090 inch x 0.090 inch square openings (Par. 46). One of skill in the art would by routine experimentation to find the optimum opening diameter depending on the desired particle size to be filtered. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

Regarding Claim 2, Lisson et al disclose that the lattice elements are unmilled (Fig. 2).

Regarding Claim 7, Lisson et al disclose that the stacked lattice elements have differing structures (Fig. 2).

Regarding Claim 8, Lisson et al disclose that one lattice element (8) is finer than another lattice element (6) (Col. 3, Lines 22-35).

Regarding Claim 12, Lisson et al disclose that one lattice element is an expanded metal (Col. 3, Lines 35-43).

Regarding Claim 14, Lisson et al disclose that the filter material (3) is comprised of at least three stacked lattice elements (5, 6, 8, 10) (Fig. 2; Col. 3, Lines 35-40).

Regarding Claim 17, a distribution layer (6) of Lisson et al is considered a spacer disposed between two lattice elements (5, 8) (see Fig. 2).

Regarding Claim 18, a distribution layer (6) i.e. spacer as above is welded to the lattice elements (8, 5) (see figure 2; col. 3, lines 35-40).

Regarding Claim 19, Lisson et al disclose that a filter material is comprised of two lattice elements with a fine structure (#6, 8) that are welded to lattice elements having a coarser

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structure (#5, 10) and that spacers (#4) are disposed between the lattice elements having the coarser structure (see Fig. 1-2; col. 2, line 56 – col. 3, line 35).

Regarding Claim 26, Lisson et al disclose that the filter body (1) comprises the filter material (3) (Fig. 1).

Regarding Claim 27, Lisson et al disclose that the filter body (1) is a filter cylinder (Fig. 1; col. 2, lines 56-67).

8. Claims 2, 7-8, 12, 16, 20-22, 26-27 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Simone, U.S. Patent No. 6,514,408 B1 in view of Denton et al.

Simone discloses a filter material (30) comprising two stacked lattice elements (38, 40) characterized in that the lattice elements have a weld joint (42) between them and the pore size of the filter material is between about 50 micron and about 250 micron (see Fig. 1-2; col. 2, line 66 – col. 3, line 45). Claim 34 essentially differs from the filter material of Simone in reciting the filter material having more than 20 welded connections per 1 square centimeter. Denton et al teach a filter material comprising more than 7 to 20 weld joints per axial inch between screen (16) and the filter media (14) (Par. 47, 49). One of skill in the art would by routine experimentation to find the optimum number of weld joints to secure two lattice elements together to form a filter material . It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

Regarding Claim 2, Simone discloses that the lattice elements (38, 40) are unmilled (Fig.1).

Regarding Claim 7, Simone discloses that the stacked lattice elements (38, 40) have differing structures (Fig. 1).

Regarding Claim 8, Simone discloses that one lattice element (40) is finer than another lattice element (38) (Col. 3, Lines 8-15).

Regarding Claim 12, Simone discloses that one lattice element is an expanded metal e.g. stainless steel (Col. 3, Lines 2-5).

Regarding Claim 16, Simone discloses that the filter material comprises a weld flange (42).

Regarding Claim 20, Simone discloses that in the border regions the filter material is comprised of a metal strip (48, 48b, 48c) in the direction of its longitudinal axis (Fig. 1-4).

Regarding Claim 21, Simone discloses that the sheet metal strip is less than 100 mm wide (Col. 4, Lines 10-13).

Regarding Claim 22, Simone discloses that the sheet metal strip (48) projects at least partially beyond at least one lattice element (40) (Fig. 2).

Regarding Claim 26, Simone discloses that the filter body comprises the filter material (30).

Regarding Claim 27, Simone discloses that the filter body is a filter cylinder (Fig. 1).

9. Claims 3, 11-12, 14, 20, 22-27 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adams et al., Pub. No. US 2002/0130064 A1 in view of Denton et al.

Adams et al disclose a filter material consisting of two stacked lattice elements (224, 226) characterized in that the lattice elements have a weld joint between them (Fig. 31; Par. 157).

Claim 34 essentially differs from the filter material of Adams et al in reciting the filter material



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having more than 20 welded connections per 1 square centimeter and one of the lattice elements having opening with a diameter of less than 2 mm. Denton et al teach a filter material comprising more than 7 to 20 weld joints per axial inch between screen (16) and the filter media (14) (Par. 47, 49). One of skill in the art would by routine experimentation to find the optimum number of weld joints to secure two lattice elements together to form a filter material . It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955). Denton teaches a lattice element (16) comprising 0.090 inch x 0.090 inch square openings (Par. 46). One of skill in the art would by routine experimentation to find the optimum opening diameter depending on the desired particle size to be filtered. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art. In re Aller, 105 USPQ 233, 235 (CCPA 1955).

Regarding Claim 3, Adams et al disclose that the lattice elements have structural elevations and depressions and are bonded together in the region of their contact points (Fig. 31).

Regarding Claim 11, Adams et al disclose that one lattice element is a fabric (Par. 9).

Regarding Claim 12, Adams et al disclose that one lattice element is an expanded metal e.g. stainless steel (Par. 155).

Regarding Claim 14, Adams et al discloses that the filter material is comprised at least three stacked lattice elements (216, 214, 218) (Fig. 30B).

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Regarding Claim 20, Adams et al disclose that in the border regions the filter material is comprised of a sheet metal strip (Par. 155, 169) in the direction of its longitudinal axis (265, 266)(see Fig. 37A-37C).

Regarding Claim 22, Adams et al discloses that the sheet metal strip (265) projects at least partially beyond at least one lattice member (Fig. 37A).

Regarding Claim 23, Adams et al disclose that two sheet metal strips are welded together (Par. 139).

Regarding Claim 24, Adams et al discloses that the filter material comprises a frame (212)(Fig. 30A; Par. 153).

Regarding Claim 25, Adams et al disclose that the frame (260) is at least partially disposed between two lattice elements (Par. 169).

Regarding Claim 26, Adams et al disclose that the filter body comprises a filter material (267)(Fig. 37C).

Regarding Claim 27, Adams et al disclose that the filter body is a filter frame, a filter plate, or a filter cylinder (Par. 9).

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Simone in view of Sprenger et al., U.S. Patent No. 6,415,930 B1.

Regarding Claim 13, Simone does not disclose a coarser lattice element disposed between two finer lattice elements. Sprenger teaches a filter material comprising a coarser lattice element (12) disposed between two finer structures (14, 16). It would have been obvious to one of ordinary skill in the art to modify the filter material of Simone to dispose a coarser lattice

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element between two finer lattice elements in order to provide a rigid cylinder support (Col. 2, Lines 50-55).

11. Applicant's arguments with respect to claims 2-3, 6-8, 11-27 and 34 have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that the Denton does not suggest a filter material having the narrow mesh of the filter elements with the plurality of welded connections per square centimeter. However, Denton does suggest that the filter screen (16) is welded to filter media (14) at about 7 to about 20 attachment points per axial inch on the peaks of filter media pleat (24) (see Par. 47). One of skill in the art would by routine experimentation to find the optimum number of weld joints to secure two lattice elements together to form a filter material. It is not inventive to discover the optimum or workable ranges by routine experimentation when the general conditions of a claim are disclosed in the prior art.

In re Aller, 105 USPQ 233, 235

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

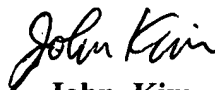
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is 571-272-1142. The examiner can normally be reached on Monday-Friday 7 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



**John Kim**  
**Primary Examiner**  
**Art Unit 1723**

JK  
July 31, 2006